The Essence of Performance on the Acoustic Drum Kit: A Study of *Feel*

Sam Raines

ORCID Identifier 0000-0002-1683-2587

Master of Music

August 2018

Melbourne Conservatorium of Music

The University of Melbourne

This thesis is submitted in partial fulfilment of requirements for the degree of Master of Music.
Abstract

This practice-led research investigates and discusses the terms and applications of ‘feel’ and ‘time’ in acoustic drumming, and through various performance settings I break down and examine how these phenomena exist within my performance. Topics of this research include feel, time, groove, improvisation, pulse, liveness, and motif, all of which are looked at through the various effects they can have on performance. This dissertation includes both written and recorded documentation of my own performances, as well as drawing on sources of information such as music notation (transcriptions), sound waves, various publications, liner notes and experiential descriptions of each performance setting.

The creative works presented in this research are made up of various recorded performances, which can be identified in the ‘List of Embedded Audio’. As sections of this dissertation are based on specific recordings, the relevant audio is also listed within the text. This should allow the reader to listen to each recorded performance before or after the relevant section is read. Each recorded work for this research is presented in an mp3 format.
Statement of Originality

I certify that the intellectual content of this thesis towards the degree of Master of Music is the product of my own work, and that all the assistance received in preparing this thesis has been acknowledged. This thesis has not been submitted for any degree or other purpose and is 18,628 words in length as approved by the Research Higher Degrees Committee.

Sam Raines
Acknowledgments

I am incredibly grateful to my principle supervisor, Geoff Hughes, for his ongoing support and direction throughout this study.

I would also like to thank the following people for their support:

My partner, Rebecca Koster.

My parents, Peter and Kate Raines.

My co-supervisor, Alex Pertout.

And finally, all the musicians who have shared in the music making process with me, and especially the ones featured in the works presented in this study.
## Contents

LIST OF FIGURES ............................................................................................................................... viii

LIST OF EMBEDDED AUDIO ............................................................................................................. x

INTRODUCTION ........................................................................................................................................... 1

I. OVERVIEW ............................................................................................................................................. 1

II. AUTOETHNOGRAPHY (METHOD) ...................................................................................................... 2

III. STAGES UNDERTAKEN THROUGHOUT THIS RESEARCH ................................................................. 4

IV. ETYMOLOGY OF FEEL ......................................................................................................................... 5

V. DRUMMERS ON FEEL AND TIME ....................................................................................................... 6

VI. GROOVE ............................................................................................................................................... 7

VII. NUANCES AND MEDIATISATIONS .................................................................................................... 10

CHAPTER ONE ......................................................................................................................................... 12

“OUTRUN” .............................................................................................................................................. 12

Audio 1.2 “Outrun” Isolated Drum Kit Track ......................................................................................... 12

1.1 Creating a Motif .................................................................................................................................. 12

1.2 Topics of this Chapter .......................................................................................................................... 13

1.3 Creating Liveness in the Motif ............................................................................................................. 14

1.4 A Breakdown of the Motif .................................................................................................................... 14

1.5 The Motif ............................................................................................................................................ 16

1.6 The Effect of Nuances in Tempo, Articulation and Placement ............................................................. 17

1.7 A Visual Breakdown ............................................................................................................................. 22

1.8 “Outrun” Summary ............................................................................................................................ 25

1.9 “Outrun” - Live ................................................................................................................................... 26

1.10 Live Performance Contingencies ......................................................................................................... 26
CHAPTER TWO......................................................................................................................... 32

“RIDERS”................................................................................................................................ 32

2.1 FREEDOM FROM METRE .................................................................................................. 32

2.2 TOPICS OF THIS CHAPTER .............................................................................................. 33

2.3 ABANDONING THE METRE .............................................................................................. 36

2.4 DRUM KIT AND BASS GUITAR MOTIFS ........................................................................... 36

2.5 A PUSHING EFFECT IN THE GROOVE ............................................................................ 38

2.6 AMETRICITY .................................................................................................................... 42

2.7 SOLO ANALYSIS .............................................................................................................. 43

2.8 FILLS GESTURING A DOWNBEAT ................................................................................... 46

2.9 SHIFTING THE PULSE ..................................................................................................... 50

2.10 REENTERING THE METRIC GROOVE ......................................................................... 54

2.11 “RIDERS” SUMMARY .................................................................................................. 54

CHAPTER THREE..................................................................................................................... 56

“SKIPPING STONE”................................................................................................................ 56

3.1 PORTRAYING AN IMAGE THROUGH TIME .................................................................... 56

3.2 TOPICS OF THIS CHAPTER .............................................................................................. 56

3.3 FEEL, STORY AND RECORDING: HAL BLAINE ............................................................. 57

3.4 “WIPE OUT” - SPACE IMPLIED BY TIME ...................................................................... 58

3.5 NUANCED DYNAMIC VARIATION ................................................................................ 62

3.5.1 TIMBRE AND BODILY MOVEMENT .......................................................................... 64

3.5.2 SYNCOPATION ........................................................................................................... 65

3.6 “WIPE OUT” SUMMARY ................................................................................................ 66

3.7 “SKIPPING STONE” ....................................................................................................... 67

3.7.1 INTRODUCTION/VERSE 1 ......................................................................................... 68

3.7.2 PORTRAYING AN IMAGE ........................................................................................ 69

3.7.3 PULSE ......................................................................................................................... 71
3.7.4 Transitioning from Verse to Chorus................................................................. 74
3.7.5 Chorus.............................................................................................................. 75

CHAPTER FOUR ....................................................................................................... 78

“EC” ....................................................................................................................... 78
4.1 Rhythm and Tempo Set the Mood...................................................................... 78
4.2 Topics of This Chapter....................................................................................... 78
4.3 Improvisation.................................................................................................... 79
4.4 Groove............................................................................................................... 79
4.5 Improvisation With Groove ............................................................................ 82
4.6 Playing Alongside a Percussionist..................................................................... 83
4.7 Variation in the Feel of the Groove Between Drum Kit and Percussion......... 86
4.8 “EC” Summary.................................................................................................. 87

CONCLUSION ......................................................................................................... 89

Significance of My Findings..................................................................................... 89
Key Points Made in Reaching My Position............................................................... 89
Relevant Factors Outside the Scope of This Research ............................................ 91
Topics Linked to the Wider Context in My Discipline............................................ 92

BIBLIOGRAPHY .................................................................................................... 94

DISCOGRAPHY ...................................................................................................... 98
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIGURE 1.1</td>
<td>“OUTRUN” MOTIF</td>
<td>15</td>
</tr>
<tr>
<td>FIGURE 1.2</td>
<td>TEMPORAL VARIATION CREATING LIVENESS</td>
<td>21</td>
</tr>
<tr>
<td>FIGURE 1.3</td>
<td>SOUND WAVE AND TRANSCRIPTION OF THE OPENING 4 BARS</td>
<td>23</td>
</tr>
<tr>
<td>FIGURE 1.4</td>
<td>SEXTUPLET GROUPING BETWEEN DRUM KIT AND PERCUSSION</td>
<td>25</td>
</tr>
<tr>
<td>FIGURE 1.5</td>
<td>STAGE SETUP FOR LIVE PERFORMANCE</td>
<td>27</td>
</tr>
<tr>
<td>FIGURE 2.1</td>
<td>“RIDERS” CHART</td>
<td>34-35</td>
</tr>
<tr>
<td>FIGURE 2.2</td>
<td>RIDE CYMBAL AND BASS GUITAR MOTIFS IN A AND A’ SECTION</td>
<td>38</td>
</tr>
<tr>
<td>FIGURE 2.3</td>
<td>BASS GUITAR SOUND WAVE AND MUSIC NOTATION OF INTRO</td>
<td>40</td>
</tr>
<tr>
<td>FIGURE 2.4</td>
<td>SECOND FOUR BARS OF INTRO WITH RIDE CYMBAL</td>
<td>40</td>
</tr>
<tr>
<td>FIGURE 2.5</td>
<td>A PUSHING EFFECT BETWEEN SECTIONS OF THE HEAD AND SOLO</td>
<td>42</td>
</tr>
<tr>
<td>FIGURE 2.6</td>
<td>THE SOLO SECTION</td>
<td>43</td>
</tr>
<tr>
<td>FIGURE 2.7</td>
<td>SHIFTING FROM METRIC TO AMETRIC TIME</td>
<td>45</td>
</tr>
<tr>
<td>FIGURE 2.8</td>
<td>DRUM FILL CREATING A SENSE OF DOWNBEAT</td>
<td>48</td>
</tr>
<tr>
<td>FIGURE 2.9</td>
<td>DRUM FILL CREATING A SENSE OF DOWNBEAT</td>
<td>49</td>
</tr>
<tr>
<td>FIGURE 2.10</td>
<td>DRUM FILL CREATING A SENSE OF DOWNBEAT</td>
<td>49</td>
</tr>
<tr>
<td>FIGURE 2.11</td>
<td>DOWNBEAT – AMETRICITY – DOWNBEAT (SOUND WAVE)</td>
<td>50</td>
</tr>
<tr>
<td>FIGURE 2.12</td>
<td>3-NOTE PHRASE AND 2-NOTE PHRASE WITH DISPLACED AXIS</td>
<td>53-54</td>
</tr>
<tr>
<td>FIGURE 2.13</td>
<td>TACTUS AND TATUM OF “RIDERS”</td>
<td>55</td>
</tr>
<tr>
<td>FIGURE 3.1</td>
<td>A VISUAL EXAMPLE OF THE PUSHING EFFECT</td>
<td>61</td>
</tr>
<tr>
<td>FIGURE 3.2</td>
<td>“WIPE OUT” DYNAMIC NUANCES MEASURED IN DECIBELS</td>
<td>63</td>
</tr>
<tr>
<td>FIGURE 3.3</td>
<td>“WIPE OUT” OPENING DRUM PART</td>
<td>64</td>
</tr>
<tr>
<td>FIGURE 3.5</td>
<td>SYNCOPATION CREATING TENSION</td>
<td>66</td>
</tr>
</tbody>
</table>

https://www.instagram.com/p/BLUOrxZgDis/?hl=en&taken-by=sa_rips


https://www.instagram.com/p/BH_V24rhrl1/?hl=en&taken-by=sa_rips

FIGURE 3.8 SPATIAL MOVEMENT INFORMING TEMPORAL MOVEMENT

FIGURE 3.9 “SKIPPING STONE” INTRO AND 1<sup>ST</sup> VERSE DRUM KIT TRANSCRIPTION


https://www.instagram.com/p/BGRFoPfOrjx/?hl=en&taken-by=sa_rips

FIGURE 3.11 “SKIPPING STONE” CHORUS DRUM KIT TRANSCRIPTION

FIGURE 4.1 “EC” MOTIF

FIGURE 4.2 VARIATION ON MOTIF (BAR 5)

FIGURE 4.3 VARIATION ON MOTIF (BAR 9)

FIGURE 4.4 VARIATION ON MOTIF (BAR 43)

FIGURE 4.5 COWBELL AND DRUM KIT MOTIFS

FIGURE 4.6 INDIRECT RHYTHMIC VARIATION (BAR 18)

FIGURE 4.7 OPPOSING ‘FEELS’ IN THE GROOVE (BAR 12)
List of Embedded Audio

AUDIO 1.1 “OUTRUN” ........................................................................................................... 12
AUDIO 1.2 “OUTRUN” ISOLATED DRUM KIT TRACK .................................................. 12
AUDIO 1.3 “OUTRUN” - LIVE .......................................................................................... 26
AUDIO 2.1 “RIDERS” ....................................................................................................... 32
AUDIO 3.1 “WIPE OUT” ................................................................................................... 58
AUDIO 3.2 “SKIPPING STONE” ....................................................................................... 67
AUDIO 4.1 “EC” ................................................................................................................ 78
AUDIO 4.2 “EC” ISOLATED DRUM KIT AND PERCUSSION TRACKS ....................... 78
Introduction

I. Overview

Grammy award winning and prominent drum kit educator, Peter Erskine, states, "We make music feel good by our time keeping." Within this concise statement Erskine uses two terms that are common in contemporary Western drum kit practice – ‘feel’ and ‘time’. Although commonly spoken, a degree of indeterminacy lives in the praxis of these terms, suggesting that they may best be understood through experience, rather than expressed in a general sense.

This practice-led research investigates and discusses the terms and applications of ‘feel’ and ‘time’ in acoustic drumming, and through various performance settings I will break down and examine how these phenomena exist within my performance. Topics of this research include feel, time, groove, improvisation, pulse, liveness, and motif, all of which are looked at through the various effects they can have on performance. This dissertation includes both written and recorded documentation of my own performances, as well as drawing on sources of information such as music notation (transcriptions), sound waves, various publications, liner notes and experiential descriptions of each performance setting.

When I began this research, I searched for the definition of ‘feel’ in the Oxford Dictionary of Music (which has over 12,000 entries and has supposedly been

---

unrivalled for 20 years) and found no entry for the term. Initially, I found this to be surprising given the common usage of the term in contemporary music making. I was left thinking that maybe the term was too vague, or perhaps feel was just a combination of terms like expression, tempo and articulation. However, the further I explored this topic, the more it became apparent that no matter how conclusive the term was in any sense of the word, a significant quality of subjectivity seemed essential to its meaning. This is perhaps what made autoethnography a suitable methodology for my research.

II. Autoethnography (Method)

In Practice-led Research, Research-led Practice in the Creative Arts, authors Hazel Smith and Roger T. Dean discuss the “methodological, theoretical, practical and political issues surrounding creative practice and research.” 3 Within this discussion, Smith and Dean present the argument that practice-led research and research-led practice are not separate methods, and in fact co-exists within an ‘iterative cyclic web’.4 Smith and Dean support this argument by stating, “that creative practice – the training and specialised knowledge that creative practitioners have and the processes they engage in when they are making art can lead to specialised research insights which can then be generalised and written up as research.”5

This method represents the one I have taken throughout this study, where my aim has been to highlight the insights, conceptualisation and theorisation that has

---

3 Hazel Smith and Roger T. Dean Practice-led Research, Research-led Practice in the Creative Arts (United Kingdom: Edinburgh University Press, 2009), 9.
4 Smith and Roger Practice-led Research, Research-led Practice, 2.
5 Smith and Roger Practice-led Research, Research-led Practice, 5.
arisen when reflecting on and documenting my own creative practice.  
Furthermore, the method of my research can be linked to the sub-cycles that are fundamental to the iterative cyclic web model, which are presented below:

Idea generation
(how generalised terms and practices such as ‘feel’ and ‘time’ manifest in acoustic drum kit performance)

Output
(recording of various performances)

Theorise ideas and develop techniques as method
(DAW analysis and temporal and spatial analysis)

Application of theories and techniques to new creative work
(new performance and listening perspectives)

Yoland Wadsworth's presentation of ‘Participatory Action Research’ is another research framework that this essay employs. Wadsworth explains that “participatory action research sets out to explicitly study something in order to change or improve it.” Unlike ‘old paradigm science’ that begins with a hypothesis, and proceeds towards a conclusion, participatory action research is a social research that “tells a story.” It aims towards inventing a “different and better way

---

6 Smith and Roger Practice-led Research, Research-led Practice, 5.
of seeing and understanding our realities,” which in the case of this research are the realities inherent in acoustic drum kit performance.⁹

### III. Stages Undertaken Throughout this Research

1. My investigation began by searching various texts and interviews with drummers who manifest the qualities of feel and time, in order to see how they used the terms. These drummers included Harvey Mason, Peter Erskine, Steve Gadd, Jojo Mayer, Ahmir “Questlove” Thompson, and Hal Blaine. Later, I incorporated various scholars into this search to get a more academically driven perspective. In exploring both avenues, it became apparent that each individual discussed these terms with slightly different interpretations, contexts and perspectives.

2. As these interpretations influenced my own understanding, I started to hear my documented performances with a new perspective. My attention was drawn away from the notational rhythmic elements and was refocused towards the movement occurring within these rhythms. Because at times this movement was revealed in such subtle forms, a useful technique I employed for demonstrating my examples was placing sound waves against the grid of a DAW¹⁰ in order to specify where certain effects were occurring in the music.

3. In the third stage of this study, after focusing on my own performance, I began focusing on the collective movement among the instrumentalists with whom I

---


¹⁰ Digital Audio Workstation.
played with. Hearing the subtle movement of rhythmic phrasing between instrumentalists meant that rhythmic designs that seemed simple at the outset became more complex when viewed through a different lens. This rhythmic movement, that went beyond the limits of music notation, is referred to throughout this study as the ‘feel of the groove’.  

4. The fourth stage of this study involved giving an experiential description of performance elements that I considered as analogous to feel and time within five different performance settings. This retrospective description allowed me to describe the phenomena, of which I had little awareness at the time of its occurrence. Only when I revisited and refocused my listening towards performance elements such as groove, pulse and expressive timing, was I able to identify the nature of feel and time, and the effects they had on each performance.

IV. Etymology of Feel

The term ‘feel’ comes from the Latin word *sentire* and is defined as “perception through senses which are not referred to specific organs.” The word ‘sense’, from the Latin word *sensus*, means to “know, feel or perceive with the senses.” These initial definitions opened a few doors into my enquiry and the first point of call was recognising that these terms were best understood within nuanced emotive and

---

intuitive experiences. Furthermore, while ‘know’ and ‘knowledge’ share the same etymological roots, some insight into the epistemological context of this study began to appear. In an essay entitled *Epistemological Background to Phenomenology as a Research Method in the Arts*, phenomenologist Barry Bignell states, "Knowledge is not a way whereby we reproduce an ‘objective’ world, but a relationship into which we place ourselves." Bignell’s claim supports the process I have taken to explore the topics in this research, which through self-reflection, was to best describe my relationship with the various performance elements relevant to each chapter.

V. Drummers on Feel and Time

To better understand the concept of feel and time in performance, drummer and producer Adhmir “Questlove” Thompson demonstrates a noteworthy approach to studio recording. Performing with artists like The Roots and The Philadelphia Experiment, Questlove reasserts the importance of real-time playing in a style dominated by sampling and programming. The importance of this approach is that while creating a quantised sound, he pursues liveness by not editing out rhythmic deviations in relation to the metronomicity of the grid. When talking about this approach with The Roots, Questlove states, “The idea was to sound disciplined, but with a total human feel,” which signifies in a genre such as hip hop, and especially in a recording situation, a desire for an element of humanness in the feel of the groove - an element that may otherwise be lost in a programmed or

---

15 Barry Bignell, "Epistemological Background to Phenomenology as a Research Method in the Arts: Leading Thoughts: 1.
digitally altered drum part.17

Drummer Jojo Mayer’s awareness of feel and time comes from intuition and liveness, which he describes as senses that guide his performance. He mentions that while his machine-like drumming style may be considered obsolete, what interests him is the space between 0 and 1 that drum machines are unable to create. The space that Mayer is alluding to is a humanistic realm that is reached, and especially strong, when improvising. Mayer states, “in this space our decision-making process is so short that we cannot consciously make decisions, and we can surrender our intentions and let intuition overcome.”18

VI. Groove

The concept of groove will be considered throughout this dissertation, and the ‘consistency’ of its nature will be considered its fundamental quality. Drummer David Garabaldi states in his book Future Sounds, “Good groove is a machine-like consistency from beat to beat and from section to section within a tune.”19

Interestingly, Garibaldi’s description of groove is a machine ‘like’ consistency, implying that a high level of accuracy is necessary, yet through a human process, which in relation to a drum machine or programmed drum pattern for instance, naturally has elements of discrepancy.

To further define groove, when I asked drummer Harvey Mason what his

---

interpretation of the term was he explained, “I believe drums or any other instrument can groove without rhythmic repetition but rhythmic consistency is a must.”  

Interestingly both Garibaldi and Mason use the term ‘consistency’ to describe their understanding of groove, and for the purpose of this research this will be what lies at the heart of the phenomenon.

Paul Saden discusses the quality of humanness in groove in Liveness in Modern Music: Musicians, Technology, and the Perception of Performance, and looks at the groove of The White Stripes’ drummer, Megan White. He notes that although her performance has a rhythmic looseness and ‘unlearnedness’, the liveness that comes across in her performance is a key characteristic of the groove. In recorded performances, there is a conscious decision to forego digital alterations to correct her rhythmic imprecision because this would consequently weaken the groove and misrepresent the intention of the performance. In fact, White’s drumming is appreciated for its simplicity and devotion to liveness, as it presents a real drummer playing in real-time, in a genre and industry that arguably has become obsessed with digital exactness.  

While Mason and Garabaldi’s definition of groove refers to a more rhythmic and numerical consistency, Saden’s understanding of the term alludes to a truthfulness in performance, whether it is rhythmically consistent or not. Perhaps the most noteworthy point Saden makes is that good groove does not always come from rhythmic exactness, but from the performer having a genuine understanding of their intention within any given performance.

---

20 Harvey Mason, email correspondence, June 22, 2013.
21 Saden, Liveness in Modern Music, 83.
In *Groove: a phenomenology of rhythmic nuance*, Tiger C. Roholt discusses the activity of engaging in grooves by stating, “the sort of facility for engaging with grooves... is built up over time; one acquires it by being assimilated into a given musical culture.”\(^{22}\) She extends this argument by stating, “The facility for perceiving grooves does not come from propositional knowledge; it does not consist of a set of propositions that must be learned in order to hear the grooves of a given genre.”\(^{23}\) Roholt’s considerations for engaging and perceiving a groove suggest that there are more requirements than learning the theory of a given genre in order to execute its style. She alludes that to authentically ‘get in the groove’, a relationship to the groove’s culture must first be established.

In *Microstructures of Feel, Macrostructures of Sound: Embodied Cognition in West African and African-American Musics*, Vijay Iyer explores topics that are relatable to this essay such as rhythm, groove, and pulse. Early in the text, Iyer makes the assertion that “a fair amount of mystique is attached to rhythm perception and performance; there is a relative poverty of terminology... associated with these finer points of rhythm,”\(^{24}\) which exemplifies one of the hurdles this research has presented. Having limited resources that address topics such as feel, time, and groove, has required me to rely on a restricted amount of literature. However, despite the lack of resources, it has been reassuring to discover scholars such as Iyer, Roholt, and Saden discussing these rather ‘untouched’ topics with a degree of similarity.

---

\(^{22}\) Roholt, *Groove*, 71.

\(^{23}\) Roholt, *Groove*, 72.

\(^{24}\) Iyer, “Microstructures of Feel, Macrostructures of Sound,” 27.
In relation to ‘groove’ as an embodied phenomenon, Iyer claims that “music perception and cognition are embodied activities” and that “what it means to groove... involves the continual embodied awareness of the relationship of the pulse to the generated musical material.”  

25 In Chapter 3, I present the argument of an embodied awareness to a pulse generated from the ocean, and in particular a wave’s motion.

VII. Nuances and Mediatisations

Within this research, exploring the space beyond the limitations of music notation was a useful way for expanding each chapter. To better understand what lies beyond notation, Roholt explains that a groove’s quality comes from “playing notes ever-so-slightly early or ever-so-slightly late (in addition to subtleties of dynamics, timbre, etc.)... a groove is the feel of a rhythm.”  

26 Iyer also confirms that “one’s sense of rhythm is referred to as ‘feel’.”  

27 Therefore, we can consider that the rhythmic nuances of a drummer’s performance make up that individual’s feel in relation to the groove. The ‘push’ and ‘pull’ effect of playing slightly in front of the beat or slightly behind the beat is described as ‘felt’, because the rhythmic nuances are too minor to notate.  

28 Yet, within this research there are several contributions to performance that are considered when analysing feel and time. For example, if two drummers were to play the same pattern, at the same tempo, on the same drum kit, in the same room, because of nuances in articulation, bodily movement, and intention, it would sound different, and significantly, feel different. Therefore, these
are the considerations towards performance that will be discussed throughout this research.
CHAPTER ONE

“Outrun”

Audio 1.1 “Outrun”

Audio 1.2 “Outrun” Isolated Drum Kit Track

1.1 Creating a Motif

Prior to recording “Outrun”, I was presented with a demo of the song by the songwriter. In this particular instance, a sampled drum part had been used throughout the entirety of the demo. This was intended to roughly outline the desired drum part, yet was open for interpretation and alteration. Receiving a demo like this is something I had encountered many times before, so I was aware that my role was to create an original part, while capturing the essence of the sample. Creating a part through this process led me to develop what is commonly known as a ‘motif’. A motif is a recurring pattern played throughout a tune that is purposeful for creating the groove, similar to a guitar hook or an ostinato bass line. While the motif is not necessarily adhered to throughout the entirety of any tune, its key notes and characteristics are continually referenced and provide a rhythmic stability through consistency for the other instrumentalists to play off. An example of a motif in acoustic drum kit performance is that of Harvey Mason’s on the Headhunters recording “Chameleon”. Throughout the 15-minute recording, Mason continually references the motif’s key notes, such a preempted backbeat played on the fourth 16th note of beat one and crotchet accent on the hi-hats and ride cymbal, while also varying his motif and improvising. In Head Hunters: The Making of Jazz’s First Platinum Album, ethnomusicologist Steve Pond states, “Mason claims considerable latitude to vary his pattern, while still reinforcing the sense of stability
by making sure to land on key notes of the groove. Mason refers to the groove frequently, dipping into the flow of it, while asserting his right to improvise on it.”

Because a motif is repeated through time, it affects time in its repetition and is in turn affected by time in both performance and listening experiences. In Communication, Music, and Speech about Music, musicologist Steven Feld, explains the effect that time can have on the experience of listening by stating:

> Listening experience involves things that happen in time; such things change often and rapidly. To construct a model of this experience and a sense of its relation to how signs signify and how music symbols mean, one must confront the dynamics of changeability, the interaction of form and content, the interaction of specific and general experience.

**1.2 Topics of this Chapter**

This chapter will discuss performance elements such as creating a motif, consistency, rhythmic nuances, liveness, and touch. By looking at both a studio recording as well as a live performance of “Outrun”, I will show where these topics reveal themselves and what effect they have on the music. The analysis will be supported by the use of sound waves, music notation, and my experiential description within the two performance settings.


1.3 Creating Liveness in the Motif

The sampled drum motif used in the demo was a four-bar phrase, which was longer than what I was used to hearing in a demo. Common lengths for motifs I had learnt and created previously were between half a bar and two bars in length, so the first thing that became apparent was that there would be some difficulties creating a sense of consistency through longer temporal development. One of these difficulties was the stabilisation of the groove, because gaining a sense of familiarisation to the pattern would require more time, for instance, than if it was a one-bar pattern. We had been given specific instructions from the producer that the recording had to create a live feel, which meant techniques such as the drum part being looped, the use of a click track, and the use of multi-tracking, were not going to be employed. While these studio techniques could help stabilise the groove, they would give a stronger sense of digital influence and may compromise the liveness of the groove.

1.4 A Breakdown of the Motif

Figure 1.1 shows the motif I played throughout the entirety of the recording, with the only intentional variation being a crash cymbal added on the downbeat of the first bar in the choruses. As the pattern moves through its four-bar sequence, it gradually gets denser in notes, as well as less consistent with its rhythms and voices of the drum kit. Here, I will breakdown each bar and demonstrate where any consistencies and inconsistencies are occurring. Following this, I will look at how these consistencies and inconsistencies affect the groove and overall feel of the motif.
BAR 1

Bar 1 shows several consistencies such as a steady 8\textsuperscript{th} note hi-hat rhythm, a bass drum on the downbeat (which is not a consistency within the bar but is arguably a consistency within contemporary drumming), and a snare drum backbeat played on beats two and four. In addition to this, there is a consistency of timbre within each voice of the drum kit, as all three voices are being played similarly. For example, the hi-hat is always played with the shoulder of the stick and on the edge of the cymbal, the snare drum is played with a full stroke in the center of the head, and the bass drum is played with the beater held into the head after each stroke, creating a shorter sustain.

BAR 2

In bar 2 these consistencies begin to reduce. Firstly, there is no bass drum throughout the entire bar, creating a rhythmic and timbral inconsistency in relation to the previous bar. Following this, the snare drum begins to vary its rhythm and articulation by playing 16\textsuperscript{th} note buzzed strokes, however while maintaining the backbeat. Then at the beginning of beat four the consistent hi-hat rhythm ends, and
finally, on the last note of the bar the rack tom is introduced as a new voice in the motif.

**BAR 3**

In bar 3, an effort is made to reinforce the groove by repeating bar 2. The rhythm and orchestration of the hands remain the same, only now there is a bass drum on the downbeat and the fourth 16th note after the downbeat (the ‘a’).

**BAR 4**

Just as the motif begins to offer some consistency, bar 4 reduces any sense of familiarisation to the previous bars and is executed in a fill-like nature. This reduction of consistency is caused by eliminating the backbeat on beats two and four, discontinuing the underlying 8th note hi-hat rhythm, and omitting the bass drum throughout the entire bar. Following this, further destabilisation of the groove is created by a rhythmic shift in the last two beats, from 16th notes to 16th note triplets. In addition to this rhythmic shift, before returning to the beginning of the pattern, the last two beats of the bar are played between a percussionist and myself, introducing one last inconsistency of instrumentalist.

**1.5 The Motif**

At the time, I addressed the matter of playing a long motif by presenting a sense of familiarisation through continual repetition of the whole four-bar sequence, rather than a shorter motif with continual variations. Although the pattern would take longer for a sense of familiarisation to set in the groove, once the groove was established it would remain constant. Looking back on the performance, I am
reminded of my fascination with timekeeping at the period in which the recording took place. Aiming for a near metronomic tempo (without the use of a click track) was something that I valued more than an execution of varied rhythms and orchestrations, and was willing to put a great deal of my focus towards it. In *The Drum Perspective*, Erskine discusses the importance of timekeeping and states, “We make music feel good by our time keeping.”\(^{31}\) This is also confirmed by Whitney Balliett in *Ecstasy at the Onion* who states, “[Timekeeping is] the drummers primary function.”\(^{32}\) The four bar sequence in “Outrun” exemplifies my own concern towards timekeeping and demonstrates how I valued its importance over other elements. Interestingly, the result of my decision to play a highly repetitive motif was never questioned by the songwriter or producer.

### 1.6 The Effect of Nuances in Tempo, Articulation and Placement

With an understanding of the consistencies, inconsistencies, and my intentions within the motif, here I will look at the effects these had on the overall groove, as well as my approach to making the four-bar motif capture the essence of the sample. Initially, by trying to achieve the feel of the sample, I was unsure whether playing such a repetitive motif might sound too restricted, and even boring, yet as I continued to play the motif I realised that there were subtle variations within my performance happening all the time. Subtle shifts in tempo, rhythmic placement and articulation were constantly occurring, which I began to perceive as a form of variation without altering the notational design. In this sense, an inner life is given to the unvaried rhythm through subtle yet consistent deviations from

---


metronomicity\textsuperscript{33}, as an individual’s limbs engage with the instrument in a unique way. Iyer supports this claim by stating, “[rhythmic deviations] contain the sonic trace of physical embodiment.”\textsuperscript{34} Through this process, not having metronomic timing, but having near metronomic timing, contributed greatly to achieving a trace of physical embodiment (a live feel), while simultaneously presenting the influence of the sample. Metronomic timing felt too inhuman, whereas subtle tempo deviations throughout the performance created an element of liveness by avoiding the rigidity of quantised rhythms and metronomic predictabilities. This discrepancy was in no way detrimental to the groove, and in fact through the limitations of human accuracy, in comparison to digital technology, created a livelier groove. Iyer mentions:

\begin{quote}
It was not until the advent of automated machinery that human ears were ever treated to inhuman rhythmic precision. The fact is that sonic trace of temporal constraints imposed by the body are often perceived as aesthetically pleasing, while inhuman rhythmic regularity often is not.\textsuperscript{35}
\end{quote}

This approach of not using a click track but aiming for near metronomic timing, and playing a repetitive pattern that was not cut up and looped, became the practice employed in order to create a sampled feel through a humanly process.

\textsuperscript{33} “Metronomicity” is a term created by Vijay Iyer throughout Microstructures of Feel, Macrostructures of Sound. For the purpose of this research, the term is used to describe the nature of rhythm and time when a metronome is employed.

\textsuperscript{34} Iyer, Microstructures of Feel, Macrostructures of Sound, 76.

\textsuperscript{35} Iyer, Microstructures of Feel, Macrostructures of Sound, 62.
In relation to intention within performance, Erskine takes into consideration that virtuosic qualities can be found in simple and unforced musical ideas. He explains that in simpler musical ideas feel and timbre play greater roles in performance than that of entertainment through expected virtuosity. He states:

> When the music is relatively uncomplicated, everything you play is exposed sonically, and so touch and tone become especially important. The “pay-off” is that you are expressing a musical idea, as opposed to entertaining someone’s built up expectations of virtuosity. True virtuosity lies in the ability to deliver either a simple music idea or some very difficult sophisticated harmonic or rhythmic material with an effortless flow.

This consideration for touch, tone and an effortless flow, resonates strongly with my intention in “Outrun”, as the effect of a repeated phrase gave way for the subtler effects of the groove to be exposed. For example, if I were to play a non-repetitive pattern, as a listener and performer a level of focus would be directed towards the changing rhythms and orchestrations, obscuring performance aspects like the feel of the groove – the push and pull effect. However, the repetitive nature of the pattern illuminated the feel of the groove because there was no need for a high level of focus on what rhythms and orchestrations were being played, which in effect allowed the less tangible aspects of the groove to be heard.

---

36 Here the term “feel” is referring specifically to touch.
37 Erskine, *The Drum Perspective*, 64.
Figure 1.2 shows how the continuity of temporal deviation from metronomicity (push and pull) in a non-edited/live crotchet pulse creates a sense of physical embodiment, or a ‘live’ feel. Once that continuity of temporal deviation is discontinued, the sense of liveness is effectively eliminated, or lessened, and the digital influence becomes apparent.
Fig 1.2 Temporal Variation Creating Liveness

Non-Edited/Live Repetition

Continual variation of temporal deviation from metronomicity.

Sonic Trace of physical embodiment

Looped/Edited Repetition

Temporal variation within the bar

Sonic trace of physical embodiment

Temporal variation discontinued

Sonic trace of digital influence
1.7 A Visual Breakdown

Figure 1.3 shows both the stereo sound wave and drum kit transcription of the opening four bars, beginning with a two-beat anacrusis (that is the last two beats of the four-bar motif). Even though this was not recorded to a click track, the tempo sits closely enough within 101 bpm until the first chorus, which allows us to place the music on the grid and investigate the performance visually, seeing exactly where the ‘liveness’ in the form of subtle dynamic inconsistencies and rhythmic deviations from the metronomicity of the grid are occurring.

Beginning with the opening sextuplet rhythm between gridlines 1.3 and 1.4, here the very first spike in the sound wave shows a louder stroke on the rack tom compared to the proceeding five notes. This is perhaps an attempt to state the beginning of the beat as much as possible, as well as an inability to match the following five notes of the sextuplet with an exact dynamic. While this variation in the sound wave’s spikes throughout the sextuplet is visually noticeable, from an auditory sense, the inconsistency is much less apparent. Yet no matter how acute the listener’s ear, this dynamic inconsistency presents an element of liveness in the feel of the groove. Between gridlines 1.3 and 1.4, a steady rhythmic transition can be seen between myself and the percussionist, as the spike where the drum kit’s sextuplet ends is then continued by the percussionist directly on gridline 1.4, helping to create the illusion of one instrumentalist, and perhaps the use of quantisation or a click track. This illusion is created because to execute a fluent orchestration between toms would arguably be more seamless by one instrumentalist. Furthermore, this precision of rhythmic placement gives an impression of digital editing. By splitting the phrase, at times this produced a ‘cut-up’ and edited feel, which was another attempt to capture the essence of the
sample, yet with a live feel. Note: Each line between the sound wave and music notation links the attack of the sound wave with the notation in order to see exactly what is being represented in each part.

Fig 1.3 Sound Wave and Transcription of the Opening 4 Bars
Figure 1.3 also demonstrates a push effect in the sextuplet grouping played right before grid line 5.3 and 6. To accurately measure this push effect, Figure 1.4 shows a closer image of the phrase with a timeline below the sound wave, indicating the space of $2/100$ths of a second between each grid line. The orange vertical line on the grid shows where the percussionist takes over the phrase in order to finish the motif. In a completely metronomic sense this would ideally show the percussionist beginning on grid line 1.2, however this early phrasing and imprecision in relation to the grid, demonstrates the liveness of the groove in the form of a push effect. Here, the vertical orange line positioned over the sound wave shows the push effect in the form of $50/1000$ths of a second in comparison to metronomic placement outlined by the grid, exemplifying the subtlety of discrepancy in relation to metronomic placement.
1.8 “Outrun” Summary

Already within the first four bars of the music, the groove has presented various consistencies and inconsistencies that contribute to the overall feel. While the effects presented such as the second sextuplet grouping being played early (in relation to the grid), and the dynamic unevenness of each note in the group of sextuplets between the rack tom and the percussionist’s concert tom may only be subtle, and perhaps not even recognisable to an untrained ear, they created a sense of humanness by deviating from the rigidity of quantisation. Simultaneously the repetitive nature of the motif created a sampled and digital effect that was vital to the feel, as this repetitious nature of the groove counteracted the inner inconsistencies. As a performer, reimagining the sampled, looped, and metronomicity of the demo through real-time performance, led to an avenue of
variation and unpredictability as a listener. Having avoided improvisatory rhythms, dynamics, and orchestrations, my attention was then redirected away from the notational elements of the motif and towards the inner movements within the motif – the feel of the groove. As a listener, focusing my attention on these groove related discrepancies, that are natural temporal constraints in real-time acoustic drumming, offered a new perspective on my part. This new perspective went beyond the role of timekeeper or ‘sample replacer’, and led to a new experience of the less tangible elements within my own groove.

Audio 1.3 “Outrun” - Live

1.9 “Outrun” - Live

“Tangible” - ...capable of being perceived especially by the sense of touch.39

Until now, the performance analysis has been entirely focused on a studio recording. While there are many relatable elements between the live and studio performance of “Outrun” such as song form, instrumentation, and instrumentalist, there are also a number of contingencies that occur. Within this section of the chapter I will explore the contingencies that commonly occur in the live performance of “Outrun” and the form of the groove’s tangibility within this setting.

1.10 Live Performance Contingencies

Live performances of “Outrun” present a number of aural difficulties, one in particular being a lack in clarity of sound. While this is due to several factors, the

---

most distinguishable one is the positioning of each performer within any given stage setup. Figure 1.5 illustrates how it is most common for the drum kit to be positioned in the back/center of the stage and situated on a platform higher than the other instrumentalists. This recurring setup leaves me at varying distances from the multiple instrumentalists and the sounds they are producing on stage, creating the lack of sonic clarity.

To further describe this positioning issue, I have provided a table in measurements to give an example of the unevenness I am referring to.

Fig 1.5 Stage Setup for Live Performance

---

Distances Table

Guitar amp – 1.5 metres to my right
2nd Guitar amp – 2.27 metres to my left
Bass amp - 1.4 metres to my left
2 Horns – 1.9 metres to my direct right
Keyboard amp – 3.1 metres to my diagonal right
Vocals – 3.0 metres to my front
Percussion – 2.8 metres to my diagonal left

In addition to the unbalanced sound caused by varying distances between instrumentalists, the experience of sound on stage can be further mediated by factors such as room acoustics, positioning of monitors, volume of monitors, and the time given to achieve a desired sound through the monitor. In many instances, the result is a remaining uneven and unclear sound, only louder.

Saden explains that mediatisation in corporeal liveness can have considerable effects in performance. A common example of mediatisation for drummers is as follows – If a drummer were to sit in a room and play an acoustic drum kit without any microphones, there would be no physical mediatisations as nothing is separating their physical contact with the instrument and the sound that is being produced. However, once microphones are used to capture the sound of the drum kit, the sound is then altered and the performance becomes mediatised, which can be advantageous as well as disadvantageous towards a performer’s intention. Mediatisations such as the type of microphone being used, microphone placement,

mixing, and who is controlling the sound, all mediatise the performance. Therefore, the intention of the performance versus what is delivered, is separated by so many degrees that it can become unclear whether the performer’s intention is being supported or not.

After grappling with this issue for countless live performances, I began exploring the process of eliminating the use of a fold back wedge altogether, ultimately leaving me in a position where my ears needed to adjust to whatever sound was being produced in the room. Through this process of letting go of the endeavor to attain a balanced sound, my aural dependence lessened and my dependence on touch increased. In other words, my physical sense of the drum kit began to guide my aural sense. My ears surrendered their role of guiding the groove and my sense of touch on the drum kit became my reference for consistency. Movements like the speed of my limbs, the velocity in which my sticks hit the drums or cymbals, and the position I hit each drum or cymbal, allowed me to monitor the sound I was producing. Saden alludes to a relevant practice when talking about embodiment guiding sonic awareness. He states:

*music perception... relies on a listener’s embodied understanding of sound production itself. In other words, the recognition that someone has struck a drum to produce a particular sound may engage a listener’s own understanding of how it feels to make that physical gesture.*

While Saden is referring to the listener’s perception here, in the instance of “Outrun”

---

I am simultaneously the listener and performer. As my physiological experience of the instrument guides my performance, the tangibility of the feel of the groove begins to manifest. Therefore, the effects discussed in the studio setting section of this chapter such as tempo variations, dynamic variations, and timekeeping, begin to be experienced through touch. Apprehending the sound in this way allows me to sense a rhythmic and dynamic balance on the drum kit, enabling me to counteract the reduction in aural quality experienced by the numerous amplified sounds. The importance of being able to control this balance and make rhythmic and dynamic adjustments at various times, is that it allows me minimise mediatisation when engaging with the feel of the groove - as there is nothing physically separating myself from the drum kit.

Understanding the desire to engage with the feel of the groove in this way, may be best understood from a developmental perspective. As an acoustic drum kit player, it is common to naturally develop an aural dependence to guide the sense of groove. This is simply because for many drummers who take on learning the instrument, no amplification is required. In an acoustic environment, if the bass drum sounds too loud I adjust my foot technique to play it softer, or if my right-hand sounds too ‘busy’ I can reduce the density of notes it plays. Furthermore, as the drum kit commonly involves 1,2,3 or 4 voices playing at any given time, making adjustments to each voice based on an aural perspective allows me to blend these voices better in order to create a homogenous sound. In any case, these are all adjustments guided by an aural sense as a listener.

It is usually not until we play with other instrumentalists, or begin performing to larger audiences, that we experience the effects of mediatisation from sources such
as amplification, in which case aural dependency may become compromised, and
dependence on touch may allow greater engagement with the feel of the groove.
Therefore, experiencing the feel of the groove from a physical perspective enables
an unmediatised apprehension of the groove.
CHAPTER TWO

“Riders”

Audio 2.1 “Riders”

2.1 Freedom from Metre

In 2013 during a rehearsal one day, I presented an original composition of mine to an ensemble that consisted of a keyboard player, a bass player, and myself playing drum kit. The metric form of the composition consisted of an A and A’ section in 5/4, a B section in 4/4 (that featured a metric modulation), before returning to the A section in 5/4. My initial intention for the arrangement was to play the head of the tune, followed by a keyboard solo over the form that followed the metric changes. By steering away from the common time signature of 4/4, I hoped to create a groove that did not feel too common. Although the B section was in 4/4, my objective was to create a sense of metric difference within the entire head, which was supported by the metric modulation.

While I had achieved this sense of a non-4/4 groove within the composition, every time we entered the solo section we would continually fall out of the metre. We all had a strong desire to improvise and open up our playing in this section, yet the metric confinements of the composition were dominating our attention. In addition to this, the other ensemble members had not seen the chart prior to the rehearsal, so there was a great deal of attention on counting and very little focus on listening and expression. At this point, the issue of falling in and out of the metre during the solo section could have easily been resolved by changing the time signature to 4/4, however that would not have created the desired groove I was trying to achieve.
2.2 Topics of This Chapter

This chapter will discuss metre, ametricity, implicit and explicit pulse, pushing grooves, and ‘felt’ cadences.\textsuperscript{43} The analysis will be supported by sound waves, music transcriptions and a description of my experience throughout the recording process. As the composer of “Riders”, this chapter differs from the others, as I am writing from the songwriter’s perspective, as well as the drummer’s perspective. Therefore, the intention of this chapter is to better understand how the topics analysed can provide an outlet for ‘feel’ to be practiced in performance, both as a composer and performer.

\textsuperscript{43} For the purpose of this chapter, the term “ametricity” will be used to describe the absence of metre.
Riders

Intro

Em7

Em7  Dm7  Am7

A

Em7  Dm7

Em7

Em7  Dm7

1. Am7

2. Am7
2.3 Abandoning the Metre

Before we put the tune to rest, as one last attempt to create the desired groove in the solo section, we tried abandoning the metre altogether, in order to see if that would result in a freedom to open up our playing in an improvisational sense, while simultaneously creating a pulse with the feel of a non-4/4 groove. By essentially abandoning the downbeat, we were left with an explicit quarter note hi-hat pulse to guide our rhythmic phrasing, and no metric rules that deemed our phrasing ‘correct’ or ‘incorrect’. This almost instantly created the groove I was trying to achieve, which was to have a sense of metre, without an overstated downbeat in each ensemble member’s phrasing. Additionally, this allowed the ensemble to put a much greater focus on listening and expression, as any focus on counting was no longer effective. One way in which this heightened listening and expression can be heard is in the space of phrase lengths. It became apparent that by omitting the bar lines and sections within the solo, a freedom of space was created for ideas to be executed at non-specific times and over non-specific lengths. Eliminating the parameters of both form and metre also meant that the ensemble’s rhythmic phrasing continuously shaped the solo section in real-time. Eventually, as a result of this refocus among the ensemble, we were able to eliminate the explicit quarter note hi-hat pulse and play off our own implicit pulse. Therefore, abandoning the metre resulted in a closer balance between listener and performer, resolving any problematic aspects of the groove that we were experiencing in the initial stages of workshopping the solo section.

2.4 Drum Kit and Bass Guitar Motifs

In order to examine the effects of moving from a metric groove to an ametric groove,
it will be useful to understand the motif that is played by the bass guitar and ride cymbal throughout the head, as these two voices play consistent phrases with rhythmic similarities, and work together to create a ‘metrical cycle’. In *Hearing in time*, Justin London defines a metrical cycle as, “the coordinated set of periodicities (as well as their graphic representation) that make up a particular attentional state, typically involving beats, beat subdivisions, and measures.” The phrasing of these beats and beat subdivisions, that align at times, is what produces the ensemble’s groove, which is created and strengthened by the togetherness of each member’s phrasing. This notion of a metrical cycle of motific material creating groove will be discussed further in the chapter.

Figure 2.2 shows the four-bar ostinato played by the bass guitar throughout the A and A’ section of the head, as well as the motif played by the ride cymbal throughout these sections. Here, we can see the areas in the pattern where the rhythmic phrasing of the ride cymbal matches the bass guitar’s phrasing, showing how the two voices work together to state the metre and create the overall groove. One of the defining elements of this groove is its repetitive nature, which can be heard melodically in the bass guitar’s ascending perfect 5th between D and A at the beginning of all four bars, as well as the descending minor 3rd played between C and A in bars one and three. This repetitiveness in the groove is further stated rhythmically in the bass guitar’s dotted crotchets at the beginning of all four bars, as well as the crotchet rhythm across beats four and five in bars one and three, which is rhythmically matched by the ride cymbal.

---

Although in Figure 2.2 we are able to gain an understanding of how the motif of the bass and ride cymbal interact rhythmically in a notational sense, we are unable to analyse the nuances of each member’s rhythmic phrasing, which is effectively creating the feel of the groove. These nuances can be revealed through expressive microtiming variations that result in the feel of the groove having a push or pull effect, where any given moment played faster than the moment that preceded it is pushing, and any moment played slower than the moment that preceded it is pulling.\(^{45}\) In addition to rhythmic and temporal nuances, an element of the groove we are unable to detect in the music notation is the expressive variations that take place throughout the performance. Although these variations, such as a stick striking a drum slightly off centre or a bass guitar string being played slightly louder or softer than perhaps intended, are not necessarily intentional, they are critical elements within the performance that create a sense of liveness through groove related discrepancies. Through close inspection, it becomes apparent that within the repetitive nature of the groove, there lies an immense amount of variation in the form of subtle nuances.

### 2.5 A Pushing Effect in the Groove

The following examples will show exactly where a pushing effect is occurring in the

groove. With these examples, I also discuss some of the signposts that suggest why these pushing effects are taking place. Figure 2.3 shows the first four bars of the introduction in the form of a sound wave and music notation, while Figure 2.4 shows the second four bars where the bass guitar is accompanied by the ride cymbal. The timeline at the bottom of the sound wave shows precisely where the pushing effect in the groove is occurring. When comparing the sound waves in Figure 2.3 and Figure 2.4 on a larger scale, the first unaccompanied four-bar phrase played by the bass guitar takes just over 10 seconds, whereas once the ride cymbal enters in Figure 2.4, the four-bar phrase takes just over 9.5 seconds, showing an overall pushing effect of 0.5 seconds in the feel of the groove. If we reduce the scale in which we look at the pushing effect, we can see in Figure 2.3 that the downbeat of the third bar starts just after the 5.8 second mark, whereas in Figure 2.4, this same beat is played just before the 5 second mark, demonstrating a pushing effect of approximately 0.8 seconds. If we reduce the scale further again, beat four in the first bar of Figure 2.3 and Figure 2.4 shows this first significant rhythmic discrepancy in note placement, which is the moment the feel of the groove begins to push. In Figure 2.3, beat four of the first bar falls noticeably after the 1.5 second mark, whereas is Figure 2.4 this beat is falls before the 1.5 second mark.

Through this visual inspection, the bass guitar and drums demonstrate a subtle deviation from metronomicity. As the two voices negotiate the pulse in real-time, the nuanced temporal variations present an element of liveness in the groove, by providing variation within the notated pattern. This means that even though the groove has its metric, melodic and rhythmic confinements, continual variation and unpredictability can be experienced within the groove.
Fig 2.3 Bass Guitar Sound Wave and Music Notation of Intro

![Fig 2.3 Bass Guitar Sound Wave and Music Notation of Intro](image)

Fig 2.4 Second Four Bars of Intro with Ride Cymbal

![Fig 2.4 Second Four Bars of Intro with Ride Cymbal](image)

As the intensity of the pushing effect varies throughout the performance, by placing three different parts of the song next to each other, we can begin to determine some of the variables causing the effect. Figure 2.5 shows three different sound waves from within the recording, all of which are 20 crotchets in length. The top sound wave shows the first four bars of the introduction played only by the bass guitar, while the middle sound wave shows the second four bars of the introduction where the bass guitar is accompanied by the ride cymbal, and finally the bottom sound...
wave shows all three ensemble members playing during the ametric solo section. Although each sound wave is an equal 20 crotchets in length, we can see that the timing differs depending on how many members are playing at one given time, especially within the solo section when the entire ensemble is playing and the pushing effect on the feel of the groove is considerably greater. Here, there appears to be a correlation between the amount of sound the ensemble is producing and the tempo at which of the crotchet pulse is felt. This suggests that the increased density in the sound wave and accelerative motion of the pulse in the solo section may be caused by the ametricity. Having no prearranged form or motifs to reference has resulted in a reduction of isochronous rhythms among the ensemble in comparison to the head, resulting in a denser sound and accelerated motion. Therefore, Figure 2.5 reveals that as the density of the sound increases during the ametric solo, the pushing effect on the feel of the groove intensifies. At this point, it would also be worth considering the issue the ensemble had at the beginning stages of workshopping the tune. Constantly falling out of the meter and feeling confined by the metric form in the solo section led to a projection of ‘excitement’ in the feel of the groove once the metre was abandoned. This excitement presented by increased density and forward motion suggests that we have been ‘let out to play’ from the confinements of the metric form.
2.6 Ametricity

Here, we will look at the effects that the ametricity of the solo section had on the feel of the groove, as well as any contingencies in the ensemble’s phrasing throughout this section. While the solo section can be heard and analysed as ametric, there are several musical expressions in each member’s playing that create a *sense* of a downbeat, and therefore a metre. This sense of the downbeat is created predominantly by accentuated beats played together by two or more members of the ensemble. For example, a drum fill that is executed and then finished with a strong accentuated beat, accompanied by one or both of the other ensemble members, creates the illusion that we are playing in a metre, where the drum fill has outlined the end of a bar and finishes on the downbeat of the next bar. This phrasing was partly achievable because the recording took place in the same room, which meant we could visually synchronise our playing. However, a collective understanding of the drum fill anticipating the band landing on the same beat (at
the end of a drum fill) helped us achieve this phrasing without any definitive bar lengths or a need to over think the process. Further into the analysis, Figures 2.8, 2.9 and 2.10 will show where it became evident that this phrasing was an emerging pattern throughout the solo section and highly useful for the ensemble to create a sense of metre, in what was essentially an ametric groove.

### 2.7 Solo Analysis

Figure 2.6 shows the very beginning of the solo section right after the 1:40 minute mark. Here, an accentuated snare drum and crash cymbal create the spike in the sound wave, a sign of the ‘beginning of the end’ in regard to metre. Interestingly, at the start of the solo, where the orange marker is placed on the sound wave, the density of the sound wave instantly lessens in relation to the preceding sound, which is perhaps the band taking a metric breath from the parameters of the head and relaxing any constraints felt by the metre.

**Fig 2.6 The Solo Section**

![Solo Section graph]

Figure 2.7 shows a rhythmic transcription of the ride cymbal and bass guitar for the first eight bars of the solo section, and although there is technically no metre at this point, there is an implied metre by the ride cymbal that allows us to examine the first eight bars in a 5/4 metre. The fifth bar of Figure 2.7 shows a critical moment in
the feel of the metre, where the ensemble shifts from a metric pulse to an ametric pulse. Here, instead of the ride cymbal repeating the motif, a constant 8th note rhythm begins to dominate the rhythmic subdivision, and any sense of the motif played in the head is discontinued. What is left is an 8th note pattern that no longer suggests a metre, but an explicit pulse.
For the purpose of this chapter a pulse can be understood as a consistent articulation in the music, and at times can be felt both explicitly and implicitly.\textsuperscript{46} An explicit pulse for example, can be heard when there is a voice in the music that physically plays a consistent articulated rhythm, such as a bass drum playing a consistent crotchet rhythm within a bar or a walking bass line that outlines a

\textsuperscript{46} Rolhot, \textit{Groove}, 86.
continuous crotchet rhythm. An implicit pulse occurs when each musician is *feeling* the same consistent rhythm (say by tapping their feet), yet this consistent rhythm is not performed in the music. In the case of Figure 2.7, we can see an explicit pulse being created by a clear and consistent rhythm of the ride cymbal, which provides a reference for the ensemble to base its phrasing rhythmically, without any metric reference.

In Figure 2.7, the second beat of bar eight also shows a critical moment in the shift from metric to ametric time. Here, an accentuated beat is played on the ride cymbal, and is accompanied by the bass guitar playing the same ascending perfect 5th it plays in the ostinato throughout the A and A’ section of the head. In addition to this, the bass guitar is also playing these notes with the same rhythmic interval of a dotted crotchet that starts on the downbeat throughout the head, only now the phrasing is starting on beat two in relation to the implied 5/4 metre. Even though in this case this accentuated beat is happening on beat two, the ensemble *feels* this as the downbeat, and at this moment the band’s feeling of the downbeat *becomes* the downbeat. This demonstrates that the sense of metre is not related to a number, but the musical expression of the accentuated beat.

**2.8 Fills Gesturing a Downbeat**

Through a retrospective analysis, it became apparent that the musical expression of the ensemble collectively accentuating a note after a drum fill had the effect of creating a sense of a downbeat by creating a dominant beat within the pulse. While the downbeat, in an ametric sense, is non-existent after the very first beat, the

47 Rolhot, Groove, 86
gesture of a drum fill allowed us to synchronise our phrasing and create a sense of a
downbeat in real-time. Here, the gesture of the drum fill creates a collectively felt
rhythmic destination (a downbeat), which presents an element of start and finish,
or point A and point B. Therefore, as the ensemble reacts to point B of the drum fill
with the musical expression of an accentuated beat, the gesture of the drum fill
implies a metre. Taking into consideration Mason’s explanation of ‘groove’, “drums
or any other instrument can groove without rhythmic repetition but rhythmic
consistency is a must”, this gesture allowed the ensemble to present an element of
rhythmic consistency by recurrently synchronising accentuated notes within the
ametric groove, while simultaneously presenting the freedom of no metre.48

The highlighted section of the sound wave in Figure 2.8 shows a two-beat drum fill
being executed just after the 3:02 minute mark, while the notation shows the
rhythmic transcription of the ensemble over these two beats. In the sound wave a
spike can be seen straight after the drum fill, which is created by an accentuated
beat played by the bass guitar and drums, and although the keyboard does not
accentuate the same beat, it does provide a point of difference by breaking the 16th
note rhythm and playing a staccato 8th note alongside the accentuated notes from
the bass guitar and drums. The importance of this phrasing is that it creates a
stronger element of togetherness in the groove, while much of the surrounding
phrasing is not as harmonious. This accentuated beat explicitly states the pulse and
each member’s awareness of where it is, as opposed to the majority of the solo
section, where the pulse is more implicit, and at times potentially being felt
differently by each member.

48 Harvey Mason, email correspondence, June 22, 2013.
Figures 2.9 and 2.10 show two more examples where accentuated beats occur after a drum fill, creating a dominant beat within the ametric groove. The accentuated beat shown in the notation can be spotted as the very first spike in the sound waves after the drum fill, showing where the ensemble is *feeling* the downbeat of a new bar. At this point within the solo, the drum fill proves to give the ensemble the ability to spontaneously create a downbeat and present an element of rhythmic cohesion. While the ensemble creates a sense of metre by reacting to the gesture of the drum fill with an accentuated beat, it also plays a significant role by reassuring the ensemble that we were able to realign ourselves in the groove after stretches of highly open and improvised playing. It allowed us to feel our own downbeats, while continually revisiting and creating a unified downbeat, before abandoning the sense of metre again.
Figure 2.11 shows two occurrences within the solo section where the sense of a
downbeat is created, followed by a stretch of ametric time, before a sense of metre is restated at the end of another drum fill. The alignment of the ensemble’s rhythmic phrasing begins with a strong accentuated beat after the drum fill, followed by a stretch of ametric time (with no sense of a downbeat), before reasserting the togetherness of the ensemble’s groove by creating a sense of a downbeat after another drum fill, shown just after the 4:05 minute mark.

Fig 2.11 Downbeat – Ametricity – Downbeat (Sound wave)

2.9 Shifting the Pulse

Figure 2.12 shows the keyboard interacting with the crotchet pulse in two varied rhythmic phrasings, resulting in two different effects on the groove. These effects take place throughout the solo, and although at times have varying degrees of impact on the groove, they are all created by a relationship between the pulse and the rhythmic movement within it. Figure 2.12 shows where the keyboard begins a three-note phrase, spanning exactly twenty crotchet beats. Here, a consistent 8th note pattern played on the ride cymbal, and mostly played by the bass guitar, is allowing the keyboard’s rhythm to enter the groove in a parallel motion, creating a stabilised effect on the groove by producing an explicit crotchet pulse within the entire ensemble. This parallel rhythm within the groove allows the ensemble to feel
the pulse on the same axis, and with this greater solidity, the keyboard executes a substantially longer rhythmic phrase than that of other phrases throughout the solo.49 Furthermore, this stabilised effect on the groove is evident by the duration of the phrase lasting twenty crotchet beats, as it can be measured, and felt, as starting on the downbeat and finishing on the downbeat over five bars in a 4/4 metre.

The keyboard’s second rhythmic phrase in Figure 2.12 (starting at the end of bar 6) demonstrates a different effect on the groove to that of the first. The two-note dotted crotched rhythm, begins on the “+” of beat four and is shaped over nine and half beats in total. Here, both the dotted crotchet rhythm and length of beats it is shaped over, is not divisible by four, creating a more unstable effect on the groove than that of the previous phrase. This is because the keyboard exits the crotchet pulse played by the bass guitar and ride cymbal, and moves onto an independent axis point of a dotted crotchet pulse, effectively creating a cross rhythm. At this moment, the sense of the pulse lessens, however not in a detrimental sense to the groove, but in a less explicit sense, as there is less rhythmic alignment within the ensemble. The effect of tension and release in the groove taking place over these two phrases seemed significantly more natural and achievable in the ametric groove, as all focus was aimed towards rhythm and not metre. Because of this freedom of movement, there was no concern for starting or ending a phrase on the downbeat, or even feeling the downbeat (as exemplified in this second phrase, as it both starts and finishes off the crotchet pulse), and the groove could be established and shaped in real-time. This 2-note phrase is an example of what Iyer refers to as

“short range musical ingredients – that is, from the in-time manipulation of simple components in a modular conceptual organization.”\textsuperscript{50} Iyer further states, “aspects of musical form can stem from the sense of shared, lived time, and the way variations are carried out while embedded in time.”\textsuperscript{51} Iyer’s consideration towards musical form is displayed in Figure 2.12, where the keyboard’s ‘short range musical ingredients’ makes up the larger-scale temporal form of the solo. This reveals an element of form in what is essentially an ametric, improvised, and non-prearranged musical performance. As the cognitive process of phrasing within a prearranged form could be rested during the solo section, in a sense anything felt ‘right’ and therefore was right, as long as there was a pulse to carry the groove. This demonstrated that when the ensemble was posited with inconsequential phrasing in relation to sections, chord changes, and metre, a form could still be established, only in real-time.

\textsuperscript{50} Iyer, “Microstructures of Feel, Macrostructures of Sound,” 38.
\textsuperscript{51} Iyer, “Microstructures of Feel, Macrostructures of Sound,” 39.
Fig 2.12 3-note Phrase and 2-note Phrase with Displaced Axis
2.10 Reentering the Metric Groove

Moving from the ametric groove during the solo, back into the head, proved to be an effective step in shaping the overall performance, as it provided a definitive cadential point after what had been a long stretch of ‘felt’ cadences. Furthermore, reentering the metre provided a final stabilising effect on the groove, by providing a consistent strong downbeat that was both played and felt by the ensemble.

2.11 “Riders” Summary

What was discovered through the process of abandoning the metre, was that the ensemble’s focus was drawn away from counting in a metric sense and refocused towards the pulse, as it provided the reference point for each member’s rhythmic phrasing. This refocus heightened the activity of listening by allowing the ensemble members to rest their eyes from the chart and put any focus that was previously put towards sight, towards listening. Iyer mentions, “groove-based music is characterized in part by focused attentiveness,” and in the case of “Riders”, the dependency on groove in the solo section led to a more focused attentiveness among the ensemble.⁵² Iyer further mentions that, “the tactus and the tatum provide at

⁵² Iyer, Microstructures of Feel, Macrostructures of Sound, 70.
least two distinct clocks for rhythmic synchronization and communication among musicians.” Here, the term “tatum” refers to the smallest cognitively meaningful subdivision of the main beat, and in “Riders” the tatum would correspond predominantly with the 16th note subdivision (shown in Figure 2.13 below).

Fig 2.13 Tactus and Tatum of “Riders”

Through the tactus, each ensemble member could communicate through a wider positioning of cadences, for example by the recurring drum fills creating a destination point for rhythmic synchronisation. Through a sense of the pulse’s underlying subdivisions (the tatum), each ensemble member could base their phrasing both on and off the axis of the pulse, as shown by the keyboard’s phrasing in Figure 2.12. As a result, this engagement with the collectively felt pulse and its subdivisions made it achievable for the ensemble to engage in ‘musical conversation’, not just through an ephemeral passing of one beat to another, but through a groove embedded in the flow of the form. Therefore, the precursor to a good groove was not created by a metric togetherness, but a strong rhythmic interaction within a collectively felt pulse and its subdivisions.

---

53 Iyer, Microstructures of Feel, Macrostructures of Sound, 70.
54 Iyer, Microstructures of Feel, Macrostructures of Sound, 70.
CHAPTER THREE
“Skipping Stone”

The sea has often stirred the imagination of creative minds involved in all spheres of art.\textsuperscript{55}

Herbie Hancock

3.1 Portraying an Image Through Time
There have been many instances over the years where songwriters have asked me to create a drum part, or play in a particular way, that portrays an image they had in mind when they wrote the music. In these instances, I find myself needing to approach the music differently, which is directed away from playing a conventional motif, and more towards creating the songwriter’s spatial representation (the story/image) through certain temporal structures and movements within my performance. In addition to the temporal structures and movements, a focus is also put towards the role of timbral qualities that are at hand when performing on an acoustic drum kit. In the case of “Skipping Stone” the spatial representation the songwriter directed me to depict was a wave in the ocean, slowly building, before inevitably crashing down upon itself, and it was this image that led me to play the parts I did throughout each section.

3.2 Topics of this Chapter
This chapter will discuss the role the drum kit plays when supporting an image or

\textsuperscript{55} Herbie Hancock, liner notes to Maiden Voyage, Herbie Hancock, Freddie Hubbard, George Coleman, Ron Carter, Anthony Williams (0777 7 46339 2 5, 1986).
story of a song. Through topics such as temporal movement, bodily movement, timbre, pulse, dynamics, and rhythm, I will explore how the physical sense of these performance elements affects the perceptual sense of the music. To setup the contextualisation of these topics, I will begin by drawing on drummer Ron Wilson’s motif in The Surfaris’ 1963 hit “Wipe Out”. Following this, I will analyse my own performance in “ Skipping Stone” with the intention to present another avenue in which ‘ feel’ can be described in acoustic drum kit performance.

3.3 Feel, Story and Recording: Hal Blaine

In an interview conducted by Dan Shinder, drummer of the Wrecking Crew, Hal Blaine, talks about the importance of feel in a recording situation by stating:

I never started a session without listening to the song. What is a song? A song is a story. If you can't hear the story, you don't know the song. We soon learned that the feel was one of the most important parts of making so-called “rock n’ roll” records. If it felt good, you had a good take.

Blaine's effort towards understanding the story of any given song in order to make the music ‘feel good’ and achieve a ‘good take’, alludes to an empathetic quality that relates to this chapter. The relevance here is that the supportive role needed by the drum kit in “Skipping Stone” had to come from an understanding of the song, with a strong focus on playing a part that would enhance the story. Feld extends this

---

56 Hal Blaine has played on 40 number one hit singles and 150 top ten hits and recorded over 4000 songs.

notion by stating:

_one cannot engage a sound object or event without recognition of a simultaneous musical and extramusical reality. The experience is mental and material, code and message, individual and social, formal and expressive. In short, any musical object embodies and provokes interpretive tensions._

The concept of musical and extramusical realities, as well as enhancing a song's story through qualities inherent in acoustic drum kit performance, will be presented in the following study by Ron Wilson's performance in “Wipe Out”.

Audio 3.1 "Wipe Out"

3.4 “Wipe Out” - Space Implied by Time

Within the more tangible elements of Wilson’s motif, lies the essential element of expressive nuances, where subtle stretches and compressed rhythmic spaces, as well as subtle dynamic variations, play a vital role in the overall feel of the groove. Wilson’s 16th note rolling floor tom motif demonstrates how certain performance elements like rhythmic placement in relation to the metronomicity of a grid, pulse, timbre, and dynamics, can affect the listener's perception of the music. London states, “it is clear that the ordinary language use of the term groove describes not just a tempo-metrical type but also an expressive timing component, as grooves have a particular gestural and kinetic quality.” Wilson's temporal expressive

---

59 London, Hearing In Time, 35.
nuances in the form of consistent deviation from the metronomic grid are not to be mistaken as having a detrimental effect on the song’s groove, but in fact strengthens the spatial representation through temporal qualities, as it helps depict the unsettled waters and unsettled position of a surfer that the picture of the music portrays. By producing the temporal quality of forward motion in the groove, supported by the timbral qualities of the drum kit, Wilson puts the listener in the sonic atmosphere of a surfer by portraying the images of the ocean, surfing and perhaps most notably, being ‘wiped out’. As the motion of Wilson’s motif depicts the moving waters as one is surrounded by crashing waves, a perceptual effect on the listener is created through metric entrainment. London explains metric entrainment as a way for “listeners to synchronize their perception and cognition with musical rhythms... When we are entrained our attention literally “moves with the music” and this engenders and encourages our bodily movements.”

Saden points out that “Phenomenologists have long argued that everything we perceive is rooted in a sense of embodiment, because even our minds are physically situated in the world.” Roholt also takes a similar position to London and Saden when talking about groove and the physical senses experienced, by stating, “common intuition about groove is that to understand it, is not to apprehend it intellectually.... rather, to understand a groove is to feel it.”

Figure 3.1 shows an example of where Wilson’s motif is rhythmically deviating from the metronomic background of the grid (and to precisely what degree),

---

resulting in a pushing effect in the feel of the groove. Gridlines 1,1,2,1,3,1,4,2,2,2,2,3,2,4 and 3 show the crotchet spacing across the sound wave, and between these we can see the 32\textsuperscript{nd} note gridlines between each crotchet. Each spike in the sound wave shows Wilson's accent placement from the motif, and in most cases the accent is falling between the crotchet gridline and the preceding 32\textsuperscript{nd} note gridline, visually demonstrating the pushing effect. This reveals a visual representation of Wilson's forward motion by each accent in the motif consistently landing before the pulse of the grid, which is a key component enabling Wilson to create the illusion of motion in space through motion in time. Here, the consistent anticipative deviation of Wilson's accents in relation to the metronomicity of the grid portrays the spatial dimensions of the wave as it moves with a forward motion in the ocean. In other words, the temporal motions of the groove create the spatial representation of the wave's movement.
While each spike in the sound wave shows Wilson’s accents landing within a 32\textsuperscript{nd} note of the metronomic background, interestingly right before gridline 3 (the downbeat of the third bar) the spike is occurring before the last 32\textsuperscript{nd} note leading into the downbeat. In this instance, rhythmically Wilson’s accent is falling closer to the preceding 16\textsuperscript{th} note of the motif (the “a”) than to the intended downbeat. Yet, this is not heard as the last 16\textsuperscript{th} note before the downbeat, but is instead felt as a pushing effect in the groove. At this point it is evident that the pushing effect caused by Wilson’s anticipative deviation from the grid may be supported by a fixed tempo, which has been measured at 160bpm.\textsuperscript{64} This enables Wilson to constantly push the groove without simply speeding up, and it is this fast and forward movement of the music that directs the listener’s perception to the physical sensation of the speed.

\textsuperscript{64} In order to measure this, I imported the audio into a DAW set at 160bpm. From the very beginning until the end of the recording, each measure lined up with the grid. This not only confirmed the tempo but also suggested a click track was used for the recording.
and intensity that would be experienced when riding a wave and eventually getting 'wiped out'. In this sense, the click track played an important role in achieving the forward motion in the groove, by allowing Wilson's feel to have a considerable push effect without exceeding the fixed tempo.

3.5 Nuanced Dynamic Variation

In addition to these rhythmic nuances affecting to the groove, some consideration should also be directed to the nuanced dynamic variations. Figure 3.2 shows the accents of Wilson's motif played over two bars and the varying decibel measurements that occur, demonstrating the varying nuanced dynamic values in the groove. While these dynamic variations may be aurally subtle to the listener, they are nonetheless a contributing factor in the overall groove that help paint the picture of the uneven waters.
Fig 3.2 Dynamic Nuances Measured in Decibels

1\textsuperscript{st} accent = 4.5 db
2\textsuperscript{nd} accent = 5.0 db
3\textsuperscript{rd} accent = 3.0 db
4\textsuperscript{th} accent = 4.8 db
5\textsuperscript{th} accent = 5.3 db
6\textsuperscript{th} accent = 2.7 db
7\textsuperscript{th} accent = 2.6 db
3.5.1 Timbre and Bodily Movement

In addition to the temporal qualities and nuanced dynamic variations, some consideration should be directed towards the timbral qualities as the axis through which Wilson expresses time as space. At the very beginning of the song, Wilson creates a picturesque effect by closely imitating the timbre of a crashing wave by forcefully striking the crash cymbal with a downward motion of the arm that is similar to a wave as it crashes onto the ocean’s surface. This persuasively struck cymbal and bodily movement portrays the very image of its name - a crash. At this point the timbral qualities direct the listener’s perception towards the turbulent waters of a surfer’s environment and bring into existence a bodily sense of being among a broken wave. Following this, Wilson begins the motif of the song’s A section. Here, a resemblance between the sounds of the drum kit and the sounds associated with the story is made through the use of timbral qualities, as Wilson portrays the vast deep waters of the ocean with the largest and lowest pitched voices of the drum kit - the bass drum and floor tom. The heavily accented strokes on the floor tom, and overall fortissimo dynamic of the motif, contribute to portraying the ocean’s power and strength. The effect of Wilson’s physical movement, by striking the floor tom with considerable force and velocity, becomes implicitly symbolic of the force and velocity of the wave’s movement, evoking a bodily sensation as if being washed about in the wave’s aftermath.

Fig 3.3 “Wipe Out” Opening Drum Part
3.5.2 Syncopation

By analysing the motif from a notational perspective, Figure 3.5 displays a sense of unevenness created through contrasting accents in the two halves of the pattern. Here, the syncopation occurring in measure 2 is more than an extended length of unaccented rhythm, it is a sound with satisfied and disrupted expectation, respectively. Pond explains the effect of syncopation by stating, “Momentarily disorientating, it forces the listener to work harder to keep the pulse in facticity, energising the music.” 65 In addition to the measure of syncopation playing an unsettling role, it also briefly suggests a new pulse in the groove - a dotted crotchet pulse in relation to the crotchet pulse of the previous bar. While the syncopated bar has an unsettling effect on the groove, its slower pulse also helps propel the groove forward every time the pattern is repeated and the crotchet accent is restated. This propelling motion is yet another connection

---

between the temporal qualities of the motif and the spatial elements of the surfer’s environment. Furthermore, the crotchet accent played against the dotted crotchet accent creates a short span of tension and release in the groove, which at the fast tempo of the song creates a continual sense of instability. This sense of instability in the groove is linked to that of a surfer as they become unbalanced and eventually ‘wiped out’ in the washy waters of a broken wave.

Fig 3.5 Syncopation Creating Tension

3.6 “Wipe Out” Summary

Having specified the rhythmic and dynamic characteristics occurring in Wilson’s groove, it is worthy to observe that aspects of these specific nuances are natural temporal occurrences associated with acoustic drum kit performance, and happen to be complimentary to what is a picture of a natural environment itself being portrayed in the music.

When discussing micro-rhythmic behaviour and rhythmic structure, Iyer mentions:

the tatum-relative temporal deviations capture many of the expressive microtiming variations... Deviations quantify the microscopic delays or
anticipations of note-events to the theoretical tatum onsets. In other words, they represent the microscopic values by which note onsets differ from rigid quantization, over a metronomic background.\textsuperscript{66}

Iyer’s consideration for microscopic delays and anticipations have been represented in this analysis. Figure 3.1 presented an example of Wilson’s expressive microtiming variations within the two-bar motif by showing the accents of Wilson’s motif being consistently anticipated, and to what extent the anticipation occurs in relation to the grid. Figure 3.1 also demonstrated how Wilson’s expressive microtiming variations could exceed that of a 16\textsuperscript{th} note, yet only be perceived as a pushing effect in the groove.

In summary, it is the collective qualities of forward motion expressed in anticipative rhythmic deviations in relation to the metronomic background, nuanced dynamic variations, timbre, and bodily movement, that contribute to the kinaesthetic effect of putting the listener in the environment that inspires its sound and creates the illusion of being in a surfer’s position when riding a wave and being ‘wiped out’.

Audio 3.2 “Skipping Stone”

3.7 “Skipping Stone”

When the songwriter first introduced me to “ Skipping Stone”, I was not directed with any rhythmic or orchestration guidelines, but with an image of a wave building in the ocean, gradually getting bigger, and eventually crashing onto itself.

\textsuperscript{66} Iyer, Microstructures of Feel, Macrostructures of Sound, 70.
After receiving these guidelines, it became apparent that the common features of a motif that I was used to performing, such as a backbeat on the snare drum, a consistent 8\textsuperscript{th} or 16\textsuperscript{th} note cymbal pattern, and a bass drum on the downbeat, would not accurately portray the image that was intended for the song. In order to create the illusion of a wave's motion through my performance on the drum kit, my part had to have more consideration towards temporal structures and movement, bodily motion, pulse, and timbre - I had to perform what I heard, saw and felt when I put myself in the picture of the song.

As the song has a near symmetrical form consisting of an Introduction/Verse/Chorus - Introduction/Verse/Chorus, I will base my analysis on the first three sections, which share the same performance intentions as the following sections.

3.7.1 Introduction/Verse 1

Within the introduction and first verse, in order to portray the songwriter's image, I focused my parts towards dynamics, pulse, timbre and bodily movement. Saden states, "A regular rhythmic pulse within a given piece of music may engage a listener’s experience of regular rhythms within his or her own body, such as the listener’s heart beating or experience of walking or running."\textsuperscript{67} While the pulse within the introduction and verse did not relate to walking or running, it did relate to a sense of forward motion. This motion was supported by a crescendo in dynamics, the low pitch and timbre of the toms and bass drum, and gradually building bodily movements, which became the collective characteristics for

---

\textsuperscript{67} Saden, \textit{Liveness in Modern Music}, 53.
creating the illusion of the rising wave.

3.7.2 Portraying an Image

When I pictured the formation of a wave, it seemed equally important to consider the ocean's flat surface in which it is generated from, then as the towering wall of water it eventuates into. The calmness and subtle movement of the water before it begins its gradual build is an essential stage in the dynamic lifespan of a wave, and because of this, it proved effective to play nothing for the introduction and first half of the verse - to be this calm stillness. From my entry point halfway through the verse, a subtle quaver rhythm begins on the rack tom and floor tom, which has an underlying crotchet pulse driven by a slight accented articulation. The crotchet pulse is then intensified when the bass drum enters for the remaining part of the crescendo. At this point my intention was to create a developing sound that replicated the wave in its developmental stage, from a small rise to a growing vertical wall of water.

Fig 3.6 Sarips, Untitled, 2016.

In order to achieve this illusion, I matched the visual sense of the rising wave with
an aural sense by using a crescendo from pianissimo to fortissimo over the
duration of 10 bars. Through this gradual dynamic shift, by slowly building the
height of my arms and sticks, I was physically imitating the growth of the wave,
which supported the illusion of the story by creating a ‘rising’ sound in volume. To
further enhance this illusion, I based my part on the deepest pitched voices of the
drum kit in order to create a bodily sensation of depth, as if I was positioned in the
ocean among such rising walls of water. Here, the combined effects of dynamics,
pulse, bodily movement and timbre, supported the spatial sense of the music’s
story/image, and provided an avenue for visual interpretation. Feld expresses a
similar notion of interpretation by stating, “Interpretation of a sound object/event
(that is, of a construction), is the process of intuiting a relationship between
structures, settings, and kinds of potentially relevant or interpretable
messages.”

Fig 3.7 Sarips, Untitled, 2016.

---

3.7.3 Pulse

While performance elements like rhythm, dynamic and timbre are identifiable audibly and through music transcript, ‘pulse’ can be a less transparent component in any given piece of music. Iyer states, “the discernment of entities such as pulse... are not perceptual inevitabilities for any human being, but are strongly dependent on the person’s culturally contingent listening strategies.” ⁶⁹ In *Drumset Technique/History of the U.S Beat*, Steve Smith reflects on pulse with a more direct relationship to drum kit performance by stating:

*There is something deeper than keeping time, and that’s generating a pulse. Pulse is what we base our feel on – time is keeping that pulse steady. But time is not pulse. Without an orientation to pulse we’re just learning patterns and trying to play them in time.* ⁷⁰

The pulse that my feel was based on is what I refer to as an ‘oceanic pulse’, which meant orientating my pattern towards the essential features of a wave's motions, such as its frequency and amplitude. Creating this ‘oceanic pulse’ meant starting subtlety, as more of an implicit pulse in the background of the music. As the wave moved forward and continuously rose, so too did the articulation of the crotchet within my pattern. This was achieved through both volume and layering. The layering was achieved by the bass drum entering later in the verse to strengthen the pulse, making it more explicit as the verse progressed. This dynamic shift and layering of the toms and bass drum enabled me to differentiate time and pulse,

which meant once I was comfortable with the tempo I could direct my attention towards a solidified pulse.

Figure 3.8 shows how the illusion of the wave’s spatial movement is created through the drum kit’s temporal movement. Here, the illusion is supported by three key factors; the volume rising, the regular rhythmic pulse creating a sense of forward motion, and the timbral qualities of the crash cymbal.
Fig 3.8 Spatial Movement Informing Temporal Movement

Spatial Movement (Wave Rising/Crashing)

Temporal Movement (Volume Rising)

Regular rhythmic crotchet pulse creating the illusion of forward motion\textsuperscript{71}

\textsuperscript{71} Saden, \textit{Liveness in Modern Music}, 53.
3.7.4 Transitioning from Verse to Chorus

As I employed an increasing dynamic and forward motion throughout the verse, a natural sense of a breaking point, similar to a breaking wave, occurred within my part. Therefore, finishing the long crescendo with a loud crash of cymbals seemed to be an accurate way of symbolising the broken wave. Here, the wash of cymbals not only supports the picture timbrally by delivering a ‘crashing’ tone, but also physically, by the wavy motion the cymbals make after being struck. At this point my physical imitation of the wave, supported by timbral qualities, led to a stronger illusion between my performance on the drum kit and the story’s description that I was given by the songwriter. Just as the crashing of a wave signifies the end of its rise in the ocean, the crashing of cymbals in my pattern signified the end of the verse.

Within the transition from verse to chorus it became apparent that replicating the wave provided the song with a natural form. Here, the form of the introduction and verse was not led by a preexisting idea of section length such as 4, 8, 12 or 16 bars, but rather by the temporal structure of the story. The peak of the crescendo occurring after 23 bars demonstrates how the song’s story informed the music, and was not led by a more conventional section length.
3.7.5 Chorus

As I pictured the wave releasing its energy in a forceful crash and taking on a new broken formation, I too tried to resemble this change in my performance. At this point, in order to depict the change, I discontinued the part I had performed in the verse and produced a denser sound to depict the image of white water that
surrounds a broken wave. This new formation of my pattern employed the common features of a motif that I was used to performing, such as a snare drum backbeat on beats 2 and 4, a consistent 8th note cymbal pattern and a strongly articulated bass drum on the downbeat. Here, I was able to project a ‘washing’ sound that I likened to a broken wave by forcefully playing an 8th note rhythm on the crash cymbal.

And, just as a wave dies down to a soft force and eventually into the flat surface of the ocean’s bed, so too does the decay of the cymbals and my presence in the music, as the last notes gradually reduce to silence. However, as the chorus finishes and the picture of the wave disappears, the introduction of the song restarts. As the song's form begins to repeat, the illusion of the ocean’s wave cycle begins again, and because of this it seemed fitting for me to repeat the motions from the first introduction, verse and chorus. Through this repetition of the form, the music not only depicted the motions of a wave again, but the endless cyclic rhythm of the ocean.

Fig 3.10 Sarips, *Untitled*, 2016.
Fig 3.11 “Skipping Stone” Chorus Drum Kit Transcription
CHAPTER FOUR

“EC”

Audio 4.1 “EC”
Audio 4.2 “EC” Isolated Drum Kit and Percussion Tracks

4.1 Rhythm and Tempo Set the Mood

“EC” began as a short musical idea consisting of only a four-bar loop. In relation to form, arrangement and instrumentation, from the very beginning stages of workshopping the song, to the final stages of the recording, there was never a sense of certainty among the songwriter or the performers. Having no lyrics or story to guide the performance meant there was no clear way of deciphering the mood of the song. Yet, this uncertainty and lack of form allowed for a different mindset within the recording process - one that was focused towards rhythm. Martin states, “Rhythm and tempo set the mood of the music more tellingly than anything else, and if you get it wrong all the other rights won’t make up for it.”

Martin’s consideration for rhythm and mood rang particularly true in “EC”, from its beginning stages right through the recording and post production stages.

4.2 Topics of This Chapter

Topics discussed in this chapter include groove, improvisation, and playing alongside a percussionist. These topics will be explored through music notation, sound waves, and a personal description of my experience within the recording process. Throughout “EC” the drum kit was recorded alongside a percussionist

72 George Martin, Making Music, 79.
using a cowbell and concert toms, and therefore the interplay of these instruments and instrumentalists will be explored. Within this chapter the topics of groove and improvisation are closely linked and at times are observed simultaneously. The relationship between these performance elements is one of the key areas explored in the following study, and the investigation will look at what effect both groove and improvisation had on the recording.

4.3 Improvisation

The Oxford Dictionary of Music defines improvisation as “according to inventive whim of the moment, i.e. without a written or printed score and not from memory.” Throughout this chapter the term “improvisation” will relate to this definition and be used as a descriptive term that coincides with playing a set motif. Improvisation can be further defined for this chapter as an embellishment on a set pattern without any predetermined rhythmic phrasing.

4.4 Groove

One of the first things that became apparent from working with such an undeveloped musical idea, was that there was a greater focus on groove - simply because there was nothing else to focus on. Due to a lack of melodic and harmonic direction, meant a higher degree of attention was on the collective group of rhythms creating one homogenous rhythm that felt good. Not only did this offer a relief from the emphasis on melodic and harmonic expectation, but it also put the spotlight on each instrument’s rhythmic contribution and the way it affected the

groove. This led me to wonder if the function of rhythm and groove was too often overlooked and left in the shadows of its music companions - melody and harmony.

Figure 4.1 shows the notation of the drum kit’s motif featured in the demo, and that I was to base my motif on.

Fig 4.1 “EC” Motif

When I initially heard this part, my first consideration was that the three voices of the drum kit that were featured (the hi-hats, snare drum and bass drum), and their rhythms, needed to be adhered to in order to create the songwriter’s desired groove. In addition to this, having none of the usual melodic, harmonic or lyrical guideposts to lead the performance meant that a large portion of my concentration went towards playing the pattern as consistently as I could. Yet, I would constantly remind myself I had a creative right to exercise, had I felt the need to do so.

After workshopping the one-bar pattern I eventually began to explore some forms of rhythmic variation through the use of improvisation. In doing so, my experience of playing a very subtle variation after a stretch of repetition, had a more than subtle effect on the groove. Because my focus had been aimed towards playing so consistently, both with what notes I played and their execution, I discovered that
the smallest variation on that pattern was quite noticeable – an effect that was more than I anticipated. The first improvisatory moment within my performance is shown in Figure 4.2, where the bass drum varies its motif for the first time at the halfway point of beat 3 (the “+”). Following this, on the second 16th note of beat 4 (the “e”) an additional bass drum note is played. The final improvisatory note in Figure 4.2 is shown where the snare drum plays a 32nd ghost note falling at the very end of the fourth beat. While these are restrained forms of improvisation, they are nonetheless played as an ‘inventive whim’ and reveal the form of improvisation that was utilised within the performance.

Fig 4.2 Variation on Motif (Bar 5)

The intention of this subtle form of improvisation in such a settled groove required a balancing act so as not to disrupt the sense of consistency, yet still give the groove a presence of rhythmic freedom. The repetitive nature of the motif did not require a high level of focus to stay intact with the groove’s pulse. Therefore, it was as if this slight disruption in repetition was more attention grabbing than if the drum pattern was constantly changing, in which case rhythmic variation would hold less significance. I likened this effect to the drum pattern in “Vein Melter” played by Harvey Mason on the Herbie Hancock album, Head Hunters. When I asked Mason about this pattern he explained that, “the only restrictions were self-imposed... so I chose to play that single pattern as consistently as I could for the entire song. That took a special discipline and the band members were very
happy with my decision.”

4.5 Improvisation Within Groove

By maintaining the 16th note hi-hat rhythm and aligning the rhythmic variation of the bass drum to the hi-hat's unvaried rhythm, I was able to simultaneously execute a non-varied and varied rhythm. Here, the hi-hats lack of rhythmic variation shows how there is never a complete abandonment of the motif, and furthermore how an effort is made to honour the motif. By the hi-hat maintaining its 16th note rhythm, it offers a sense of stability and continuity to the groove that feels essential to the music's calling. From a notational perspective, Figure 4.3 shows this simultaneity of groove and improvisation. While there are several rhythmic variations occurring within the motif, there are also several non-variations occurring. For instance, the first and fourth notes on the snare drum (the backbeat) are non-varied to the motif, while the snare drum notes played on the “+” of beat 2 and the “e” of beat 3 are a form of variation. However, they are happening within the backbeat, demonstrating the simultaneity of groove and improvisation within the overall measure.

Fig 4.3 Variation on Motif (Bar 9)

74 Mason, email.
Figure 4.4 shows the bass drum improvising on the motif by abandoning the fourth 16th note of the first beat (the “a”) and adding a note on the second 16th note of beat 2 (the “e”). This subtle variation is then resolved at beat 3 where the bass drum returns to the motif. Figure 4.4 also shows the snare drum improvising before, in between, and after the backbeat, which is another display of improvisational phrasing occurring within the groove. The importance of this rhythm is that it simultaneously incorporates groove and improvisation, which allowed my performance to represent the songwriter’s desired groove, yet with an openness to creative playing. Furthermore, it opened a door for improvisational phrasing in what was a relatively non-improvisational setting. Because no melodic or lyrical content had been written yet, it was important for me to foresee that this would eventually be added to the music and likely to be at the foreground of the mix. Therefore, by maintaining an element of consistency within my performance, I was able to find a balance that would not disrupt any additional instrumentation later in the recording process.

Fig 4.4 Variation on Motif (Bar 43)

4.6 Playing Alongside a Percussionist

Playing alongside a percussionist unsurprisingly created an effect within my own groove and improvisation as a drum kit player. Where I would normally be the only percussion instrument, I was now connected to equally prominent percussive voices - the cowbell and concert toms. This connection meant that even
when the notational design of my motif was unvaried, indirect variation was constantly occurring due to the varied rhythms played by the percussionist. The percussionist’s rhythm created a constant counter rhythm to my rhythm, which affected my part by creating stronger and weaker notes in the bar. For example, when the percussionist played the cowbell’s motif there would be a stronger sense of togetherness in the parts of the bar where our rhythms would align. In contrast to this, whenever the percussionist would improvise and these rhythms would no longer align, the togetherness would lessen and each voice would stand out more. Figure 4.5 shows an example of alignment where the cowbell’s rhythm supports the bass drum and snare drum, creating a stronger rhythmic togetherness.

Fig 4.5 Cowbell and Drum Kit Motifs

Figure 4.6 shows the cowbell improvising on its motif and here the variation and unaligned notes create an effect of variation on the drum kit’s motif, even though the drum kit’s notational design is unchanged. The sense of togetherness (shown in Figure 4.5) is altered even though the drum kit has not played an improvisatory part. Therefore, the effect of rhythmic variation through improvisation is occurring within the combination of the drum kit and percussion. Through this perception of variation on my unvaried part, the motivation for containing, and
even disguising, my improvisation begun to reveal itself. By perceiving our counter rhythm as one collective voice, each time the percussionist deviated from the cowbell's motif, I began to perceive this as improvisational phrasing within my own part, essentially having the same effect as if I were playing an improvisatory phrase.

Fig 4.6 Indirect Rhythmic Variation (Bar 18)

In addition to this indirect effect of rhythmic variation, the more I engaged with the recording from a listening perspective, the less I searched for rhythmic movement in a notational sense, and the more my focus was drawn to the movement within the notational rhythms. Hearing the groove related rhythmic discrepancies, or expressive timing, began to present an analogous effect to that of notational rhythmic variation and improvisation. Iyer states, “Expressive timing has come to mean the ways in which performers deviate from strict metronomicity,” and in the case of “EC” these deviations are always present to some degree, creating a continual presence of liveness. Not only is expressive timing occurring in my own playing, but continual rhythmic deviations from

---

75 Iyer, Microstructures of Feel, Macrostructures of Sound, 15.
metronomicity beyond the limits of music notation is occurring within all the instrumentalists’ parts, as well as the collective parts played by the entire band. By considering expressive timing occurrences as a form of rhythmic variation, an entirely new listening experience opens up, one that goes well beyond the arrangement of notational rhythms. This less tangible, but nonetheless apparent, form of variation is continually effecting the feel of the groove.

4.7 Variation in the Feel of the Groove Between Drum Kit and Percussion

Unlike the perfectly spaced notated rhythmic transcription in Figure 4.7, the sound wave allows us to view the rhythmic discrepancies that are occurring within the recording. Figure 4.7 shows a significant groove related rhythmic discrepancy between the drum kit and percussionist occurring at bar 12. This moment reveals where the feel of the groove between the bass drum and cowbell is performed with two different ‘feels’ - where the bass drum pushes and the cowbell pulls. Even through aural analysis there is a noticeable rhythmic discrepancy between the two voices, which suggests a temporal quality somewhere between an expressive timing and notational subdivision (a 16th note in this case). Despite the discrepancy of approximately 175ths of a second, both of these notes were intending to fall on the fourth semiquaver following the downbeat (the “a”). While this difference in phrasing could be viewed as messy and undesirable, the opposing ‘feels’ verify the liveness in the groove. Each voice presents a form of fluidity, even when playing to a click track and without varying.

76 While this essay is not focused towards pitch related discrepancies, I imagine a similar conclusion could be drawn in relation to their existence within live performance.
the notational design. This fluidity occurs at varying degrees within the entire recording and presents a continual element of liveness. Here, it is these temporal qualities of the rhythm that allow notational repetitive and unvaried rhythms to in fact contain a form of variation.

Fig 4.7 Opposing ‘Feels’ in the Groove (Bar 12)

4.8 “EC” Summary

Unlink the other chapters in this research, where the feel of the groove is analysed with pitched instruments or solely against the grid of a DAW, here a new perspective is employed by looking at the performance of two non-pitched/percussive instruments. This demonstrates a feel in the groove that is
created by two instrumentalists, who by the nature of their percussive instruments, share a strong relationship with rhythm and time. Although there are several instances of individual pushing and pulling between the drum kit and percussion, what Figure 4.7 suggests is that the push and pull effect on each other was never overly strong, at least in comparison to other performances within this research. This could be partially caused by the use of a click track, which made it impossible for the groove to push and pull beyond the set tempo. However, it is arguable that this occurred because both players held a rhythmic certainty within their own groove, making the collective groove less malleable.

In consideration of how the percussion affected the drum kit’s groove (and visa-versa), this effect is present within all the instruments and their rhythmic relationship to each other. This is essentially what creates the ensemble’s groove. In any section, measure, or even a beat (as seen in Figure 4.5, 4.6, and 4.7), a form of groove and improvisation is presented depending on which elements of the motif are focused on. This multi-focused listening leads to an entirely new and expanded listening method, well beyond the limits of conventional western notation. Depending on the temporal acuity of the listener, it is arguable that by keeping a notational design less dense, experiencing the feel of the groove may become more comprehensible.
Conclusion

Significance of My Findings

Throughout this essay feel and time revealed themselves in various forms and I am left to conclude that their applications in acoustic drum kit performance are dependent on, but not defined by, the context in which they are being investigated. As each chapter was based on a different ensemble and method towards performance, this proved to create a contingency within the praxis of these terms. One key example of this is in the instructions that each songwriter presented at the beginning of each performance. Being given instructions such as, create a 'live' feel, replicate a wave, or my own instructions of creating a groove with a sense of no downbeat, was an effective starting point for discussing these topics and presenting how they can manifested in performance. Furthermore, this exemplified the difficulty in defining and discussing these equivocal subjects in a general sense.

Key Points Made in Reaching My Position

Chapter one, entitled “Outrun”, gave new light to my perception of variation by revealing a continual push and pull movement that was occurring in a ‘theoretically’ repeated pattern. The subtle movements in the groove became evident when analysing the sound wave against the grid of a DAW - a form of analysis that proved to be highly useful for examining my performance beyond the limits of music notation. This method can be linked back to the sub-cycles of Smith and Dean’s ‘iterative cyclic web’, where theorising ideas and developing techniques as method leads to new performance and listening perspectives. This
chapter also proved that not having metronomic timing with the use of a click track, but having near metronomic timing, allowed for an effect of liveliness in the groove.

The “Live” section of chapter one presented an argument for the importance of the feel of ‘touch’ in an amplified performance settings, and this demonstrated how touch and sight senses can guide the aural sense. A recurring theme throughout this chapter (and sections of chapter three and chapter four) was that I rarely vary my notational design. The variation that I directed my attention towards did not come from rhythms or orchestrations, but from the movements within these set rhythms and orchestrations.

In chapter two, entitled “Riders”, feeling the pulse in an ametric solo section was the central theme. As there was no downbeat for the ensemble to base their phrasing off, creating a sense of a downbeat in real-time was a key factor in order to create a cohesive groove. This sense of a downbeat related back the etymological meaning of ‘feel’ discussed in the introduction and demonstrated how the pulse in both its implicit and explicit form, was essential for shaping each member's rhythmic phrasing.

Chapter three, entitled “Skipping Stone”, demonstrated a sonic resemblance between the image the songwriter was portraying and my performance on the drum kit. This was achievable through techniques such as pulse, timbre and bodily movement, which created a link between the physiological and perceptual senses in the performance. This approach resulted in a less conventional drum pattern.
and overall form, as the music was directed more by the picture of the song than
by any pre-existing idea of song structure. Here, the feel was based on pulse, and
time was keeping that pulse steady. This chapter also presented Wadsworth’s
‘Participatory Action Research’ framework by exploring the realities inherent in
acoustic drum kit performance through ‘telling a story’.

Chapter four, entitled “EC”, showed that beginning with a very undeveloped
melodic, harmonic, and lyrical musical idea allowed for greater focus to be on the
collective rhythms among the ensemble. With minimal notated material
preconceived in the first instance, the ‘groove’ became critical as a cohesive factor.
The elements of the groove therefore received more consideration in the initial
stages of the recording. This chapter also concluded that the groove between the
drum kit and percussion was less malleable in comparison to other performances
in this essay, and suggested this was a result of two strongly rhythmic minded
performers having a strong sense of their own groove.

Relevant Factors Outside the Scope of This Research

As each chapter produced a different set of outcomes, it can be confidently stated
that this topic has to accommodate a vast array of contingencies for making music.
At this stage, the challenge of forming frameworks for researching the nature of
‘feel’ and ‘groove’ has priority over trying to establish general theories or
principles. Ever changing factors such as instrumentalists, performance
environment, and intention, all have an effect on the final outcome of any given

77 Steve Smith: Drumset Technique/History of the U.S Beat, directed by Paul Siegel and Rob Wallis
(U.S.A.: Hudson Music, 2002), DVD.
performance. Therefore, a range of other factors could be looked at that were outside the scope of this essay. One performance setting in particular that was not looked at was a solo drum kit performance. As the drum kit is collectively made up of individual voices, topics that were discussed in this essay such as pulse, timbre, motion, and the relationship between physiological and perceptual senses, could be examined solely in relation to the instrument/performer.

Another factor that was outside the scope of this essay was the groove between the drum kit and each individual ensemble member. Although this was presented in chapter four with the drum kit and percussion, the relationship with every ensemble member could be explored in a further study. Furthermore, the groove between each ensemble member, irrespective of the drummer, could also be looked at. I suspect that a study with more harmonic and melodic focus would also extend these topics far beyond this essay.

**Topics Linked to the Wider Context in My Discipline**

Writing from an autoethnographic account meant each chapter was largely focused on myself as a drum kit performer. Yet, the topics discussed, and any of the discrete methods used for discussing them, such as analysing sound waves against the grid of a DAW, could be engaged by any performer or anyone interested in these topics. This methodology could also be used in an ethnographical context, providing the researcher had the appropriate sound waves and music transcriptions to accompany the study. Topics discussed throughout this essay such as feel, time, groove, improvisation, timbre and pulse, are all contingent on the performer and context in which they are being
performed, and therefore they would no doubt lead to a diverse set of outcomes in the wider context of music performance.

Even though an effort was made to analyse a diverse list of performances throughout each chapter, there is still a lot of untouched territory in the way of performance settings. For example, this essay was mainly focused on studio recordings, however I suspect the effects in live performance would expose significantly different results (as demonstrated in the “Live” section of chapter two). Each chapter also presented an intention of ‘liveness’ within each performance, however the topics discussed could be linked to programmed and electronic drum kit performance, or any programmed and electronic instrumental performance for that matter.
Bibliography


Gilbert, Mark. Liner notes to Herbie Hancock, Head Hunters. Herbie Hancock, Harvey Mason, Paul Jackson, Bill Summers, Bennie Maupin. 01-471239-10, 1992.

Hancock, Herbie. Liner notes to Maiden Voyage, Herbie Hancock, Freddie Hubbard, George Coleman, Ron Carter, Anthony Williams. 0777 7 46339 2 5, 1986.


Discography

The following discography lists the recordings that each chapter of this essay is based on.

Chapter One


Chapter Two


Chapter Three


Chapter Four

Author/s:
Raines, Sam

Title:
The essence of performance on the acoustic drum kit: a study of feel

Date:
2018

Persistent Link:
http://hdl.handle.net/11343/219347

File Description:
Complete thesis

Terms and Conditions:
Terms and Conditions: Copyright in works deposited in Minerva Access is retained by the copyright owner. The work may not be altered without permission from the copyright owner. Readers may only download, print and save electronic copies of whole works for their own personal non-commercial use. Any use that exceeds these limits requires permission from the copyright owner. Attribution is essential when quoting or paraphrasing from these works.